

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
 (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

|  |   |   |
|--|---|---|
| Applicant's or agent's file reference<br><b>2030172PC/ko</b> | FOR FURTHER ACTION See Form PCT/IPEA/416                        |   |
| International application No.<br><b>PCT/FI2004/000371</b>    | International filing date (day/month/year)<br><b>16-06-2004</b> | Priority date (day/month/year)<br><b>17-06-2003</b> |

International Patent Classification (IPC) or national classification and IPC  
**G06F3/033**

**Applicant**

**Onesys Oy et al**

|  |   |                               |                          |                     |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
|--|---|-------------------------------|--------------------------|---------------------|--------------------------|--|--------------------------|---------------------------------------|-------------------------------------|---|--------------------------|------------------------------------|--------------------------|--|--------------------------|--|
| <ol style="list-style-type: none"> <li>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</li> <li>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</li> <li>3. This report is also accompanied by ANNEXES, comprising:                     <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>4</u> sheets, as follows:                             <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> </li> <li>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</li> </ol> </li> </ol> |   |                               |                          |                     |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <ol style="list-style-type: none"> <li>4. This report contains indications relating to the following items:                     <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII Certain observations on the international application</td> </tr> </table> </li> </ol>  | <input checked="" type="checkbox"/>   | Box No. I Basis of the report | <input type="checkbox"/> | Box No. II Priority | <input type="checkbox"/> | Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI Certain documents cited | <input type="checkbox"/> | Box No. VII Certain defects in the international application | <input type="checkbox"/> | Box No. VIII Certain observations on the international application |
| <input checked="" type="checkbox"/>  | Box No. I Basis of the report   |                               |                          |                     |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. II Priority   |                               |                          |                     |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |                               |                          |                     |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. IV Lack of unity of invention   |                               |                          |                     |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input checked="" type="checkbox"/>  | Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |                               |                          |                     |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. VI Certain documents cited  |                               |                          |                     |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. VII Certain defects in the international application  |                               |                          |                     |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. VIII Certain observations on the international application  |                               |                          |                     |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |

|   |  |
|---|--|
| Date of submission of the demand<br><b>13-04-2005</b>   | Date of completion of this report<br><b>03-05-2005</b>                                     |
| Name and mailing address of the IPEA/SE<br><b>Patent- och registreringsverket</b><br><b>Box 5055</b><br><b>S-102 42 STOCKHOLM</b><br><b>Faxsimile No. +46 8 667 72 88</b> | Authorized officer<br><br><b>Patrik Rydman /LR</b><br><b>Telephone No. +46 8 782 25 00</b> |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2004/000371

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- international search (under Rules 12.3 and 23.1(b))  
 publication of the international application (under Rule 12.4)  
 international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished

the description:

pages 1 - 12 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* 13 - 16 received by this Authority on 13 - 04 - 2005

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

pages 1 / 4 - 4 / 4 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

- the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2004/000371

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

|                               |        |             |     |
|-------------------------------|--------|-------------|-----|
| Novelty (N)                   | Claims | <u>1-33</u> | YES |
|                               | Claims | _____       | NO  |
| Inventive step (IS)           | Claims | <u>1-33</u> | YES |
|                               | Claims | _____       | NO  |
| Industrial applicability (IA) | Claims | <u>1-33</u> | YES |
|                               | Claims | _____       | NO  |

## 2. Citations and explanations (Rule 70.7)

The object of the invention is to provide a system for real time navigation through a three dimensional medical image model, which enables controlling the entire navigation process with a single tool and, thus, is more user-friendly than existing systems.

Reference is made to the following documents:

D1: WO, 99/023586, A2

D2: An Integrated Visualization System for Surgical Planning and Guidance using Image Fusion and Interventional Imaging

D3: EP, 0595746, A1

D4: Virtual Reality-Based Simulation of Endoscopic Surgery

D5: Planning and Rehearsal of Surgical Interventions in the Volume Model

D6: US, 6115028, A

Document D1 (see column 2, line 14- column 6, line 32) discloses a method and device for navigating a three dimensional image, for example a medical image, using a pointing device.

Document D2 (see chapter 2) discloses software for three-dimensional visualization for surgical planning.

Document D3 (see column 2, line 44- column 3, line 5) discloses a method for navigating in three-dimensional space displayed on a two-dimensional screen, the graphic representation on the screen is varied within the screen in response to variations in pressure.

Document D4 (see chapter 8) discloses a virtual reality-based surgical simulator with a virtual instrument controlled by the user.

.../...

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

Document D5 (see paragraph 2.2) discloses a presentation of the Volume model and how to navigate it.

Document D6 (see e.g. column 2, lines 26-30 and figures 4a and 4b) discloses a three dimensional input system comprising an input device which may be tilted in a plane for inputting third and fourth coordinates.

Document D1, which is considered to represent the most relevant state of the art, discloses (cf. page 2, line 29-page 10, line 2) a method and device for navigating through a three dimensional image from which the subject-matter of independent claims 1 and 18 differs in that a location based on detected movement of the pointing device is adjusted in relation to a work surface for selecting a navigation point, in that the displayed orientation view is rotated as the orientation view is adjusted, in that the navigation point is locked and in that the viewing direction is adjusted to an inside view of the medical image model.

The problem with prior art solution is that they are not sufficiently user-friendly. The special technical feature of independent claims 1 and 18 has the technical effect that they enable controlling of navigation using one single tool.

The cited prior art does neither disclose nor give any indication that would lead a person skilled in the art to the solution according to the independent claims 1 and 18. Therefore, the claimed invention is novel and inventive.

Claims 2-17 and 19-33 are dependent on claim 1 and 18, respectively, and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Thus, the subject matter of claims 1-33 is, novel (N) (Article 33(2) PCT), involves and inventive step (IS) (Article 33(3) PCT) and is industrially applicable (IA) (Article 33(4) PCT).